

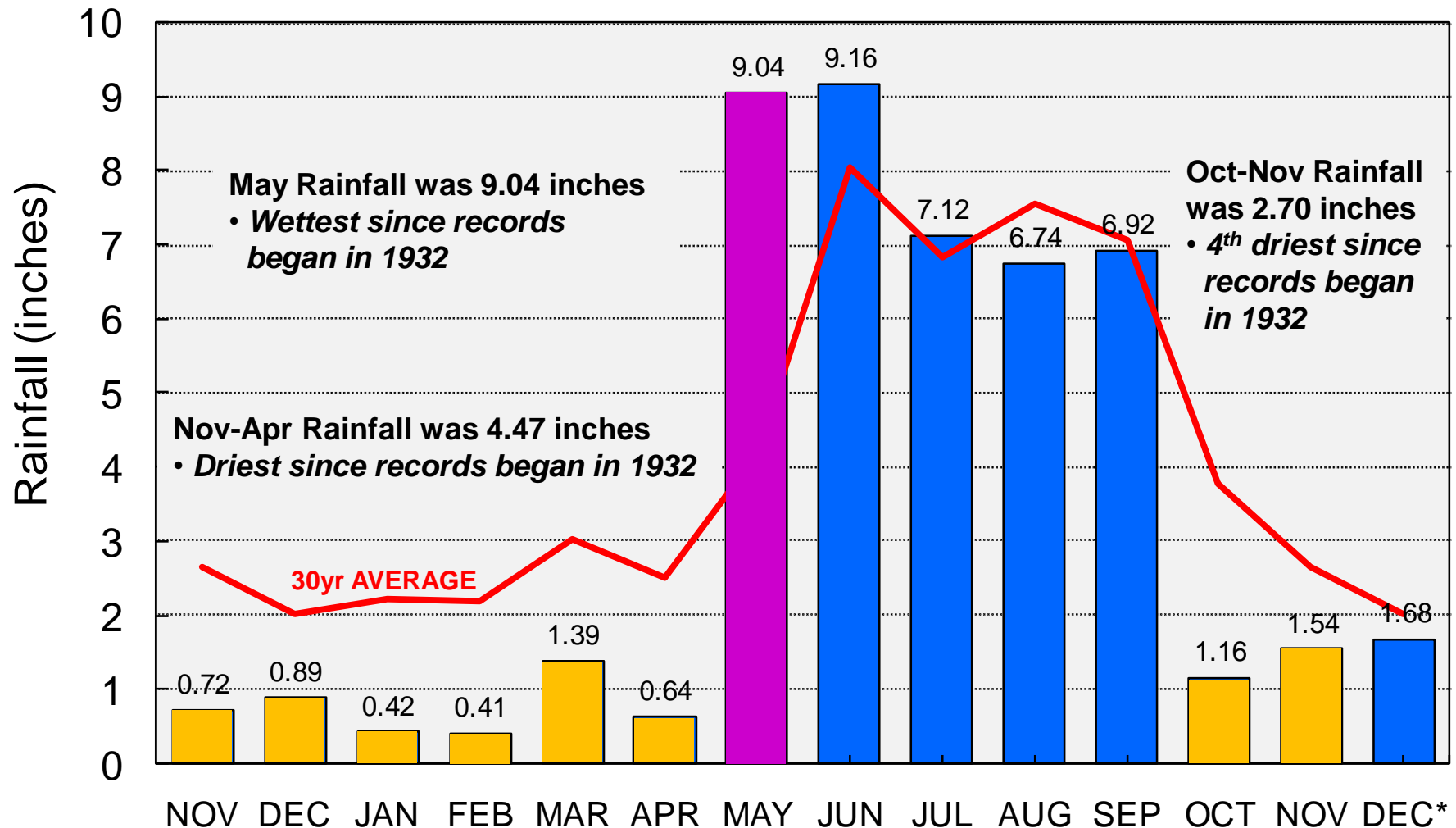
Water Conditions Report

December 9, 2009

**Calvin J. Neidrauer, P.E., Chief Engineer
Operations Control and Hydro Data Management Dept.**

SFWMD MONTHLY RAINFALL

Nov 2008 - Dec 2009



Source: SFWMD Weather Office

* December total as of 7-Dec-2009

Rainfall event November 23 - 25

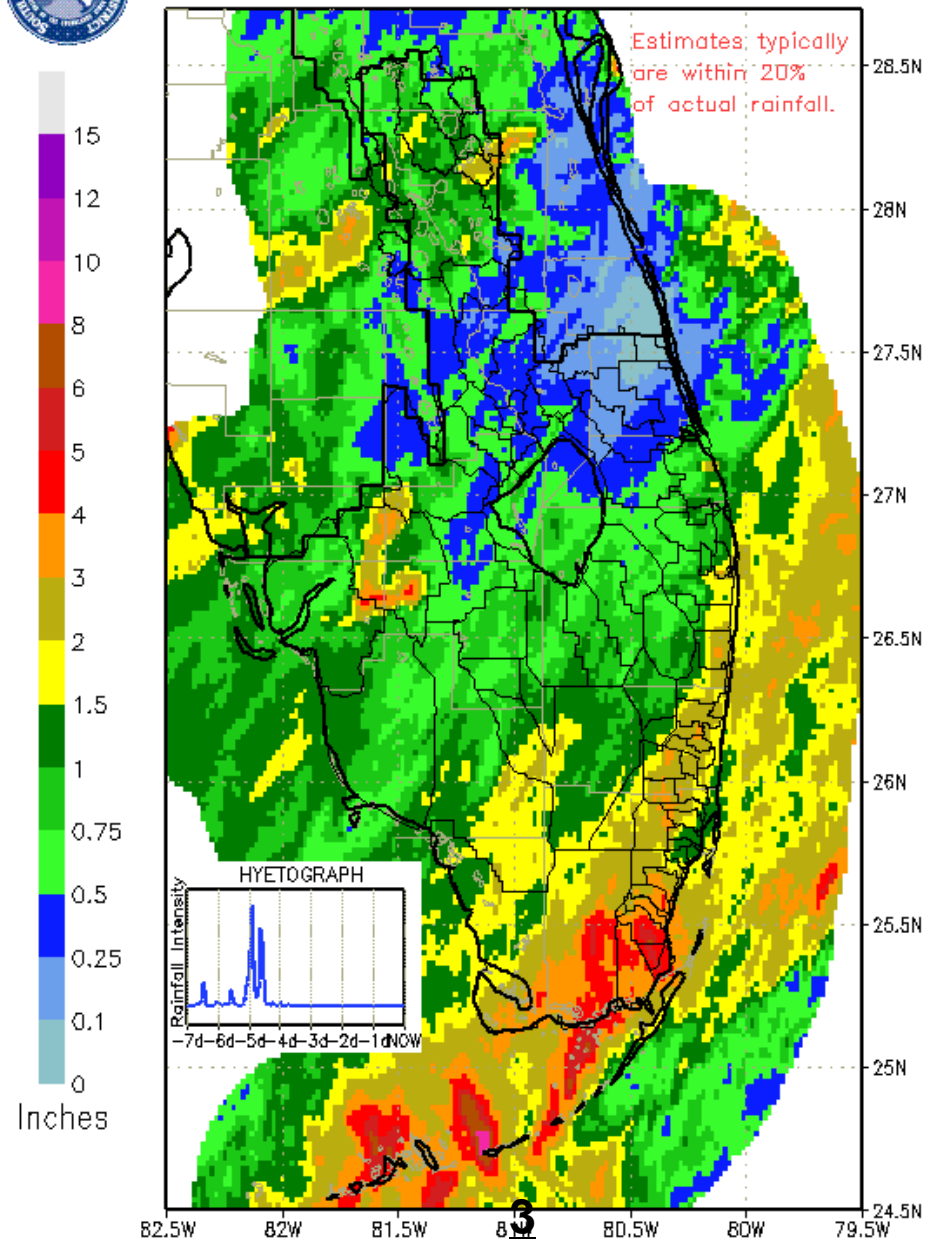
- District received about 1 inch
- Rain was mostly south, with Model Land, C111, C103 and C1 basins receiving between 3"-5"
- Much of the heavy rain in coastal Miami-Dade Co. was discharged to tide



SFWMD RAINFALL 7-DAY RAINFALL ESTIMATES

FROM: 0645 EST, 11/23/2009

THROUGH: 0645 EST, 11/30/2009



DISTRICT-WIDE RAINFALL ESTIMATE: 1.068"



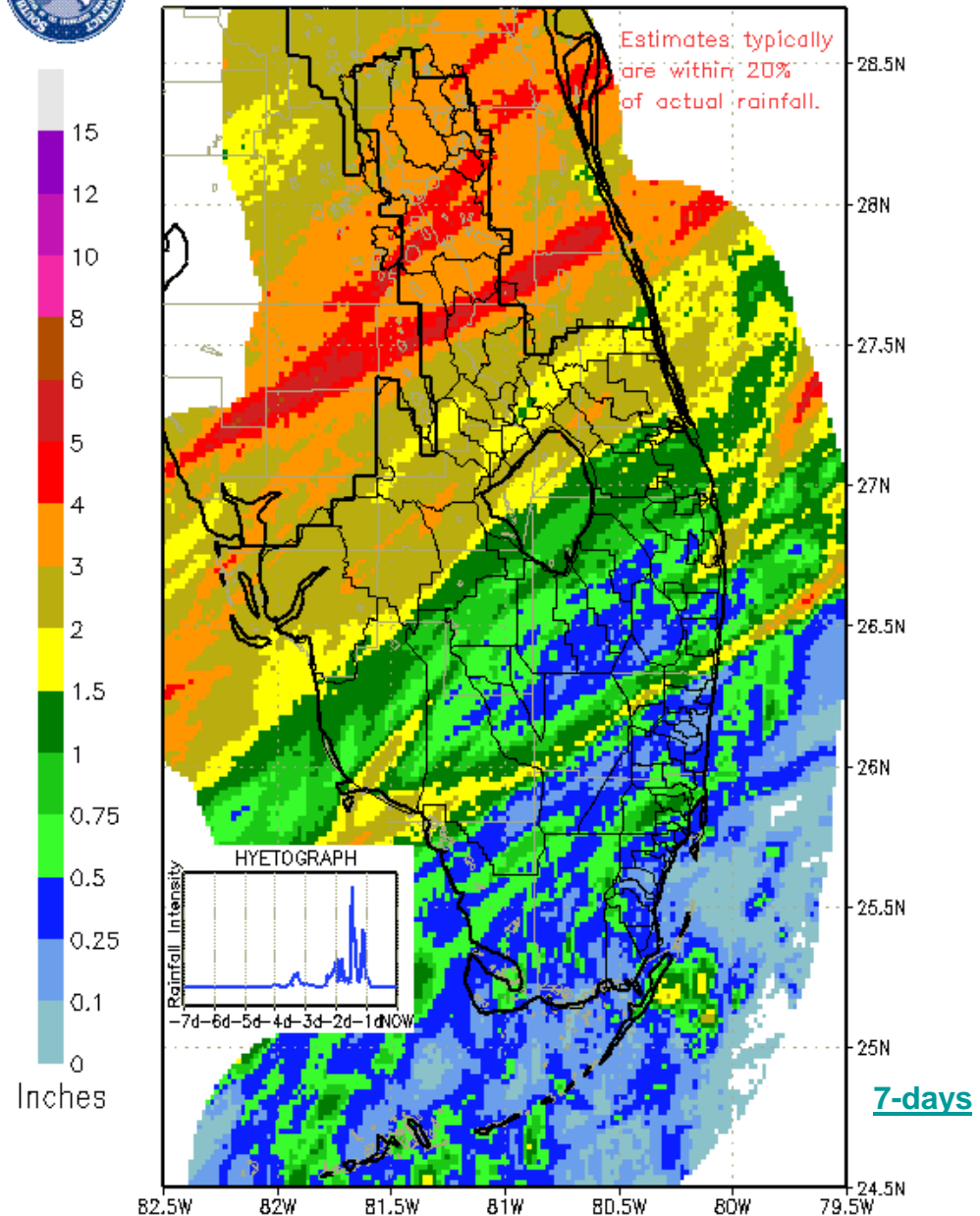
Rainfall event December 04 - 05

- District received about 1.66" from last Fri-Sat storm
- Heavier rain was mostly north of Lake Okeechobee, with Pool C and basins north receiving 3 to 4 inches
- Lake Okeechobee received about 1.6 inches
- Brought calendar year total up to 46.2"
- need 5.8" in next 3 wks to reach yearly avg of 52.0"



SFWMD RAINDAR 7-DAY RAINFALL ESTIMATES

FROM: 1245 EST, 11/29/2009 THROUGH: 1245 EST, 12/06/2009



DISTRICT-WIDE RAINFALL ESTIMATE: 1.664"



U.S. Drought Monitor

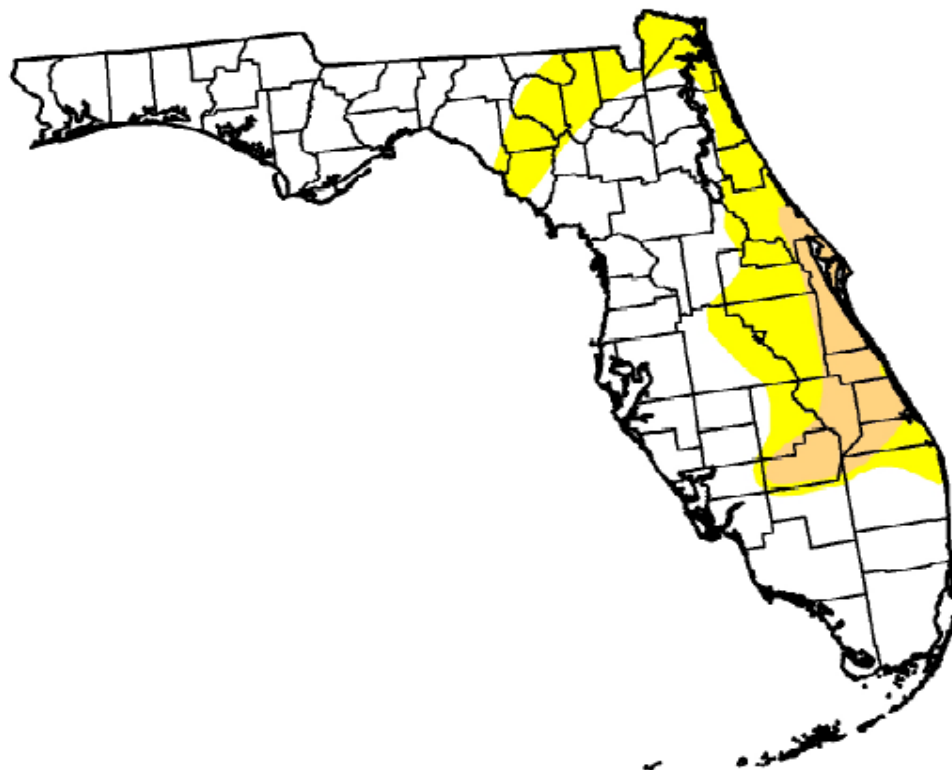
Florida

December 1, 2009

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	70.2	29.8	8.4	0.0	0.0	0.0
Last Week (11/24/2009 map)	58.0	42.0	7.5	0.0	0.0	0.0
3 Months Ago (09/08/2009 map)	100.0	0.0	0.0	0.0	0.0	0.0
Start of Calendar Year (01/06/2009 map)	44.0	56.0	13.4	0.0	0.0	0.0
Start of Water Year (10/06/2009 map)	100.0	0.0	0.0	0.0	0.0	0.0
One Year Ago (12/02/2008 map)	76.4	23.6	6.6	0.0	0.0	0.0



Intensity:

 D0 Abnormally Dry	 D3 Drought - Extreme
 D1 Drought - Moderate	 D4 Drought - Exceptional
 D2 Drought - Severe	

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



dm

Released Thursday, December 3, 2009

Author: Anthony Artusa, CPC/NOAA

<http://drought.unl.edu/dm>

ORLANDO

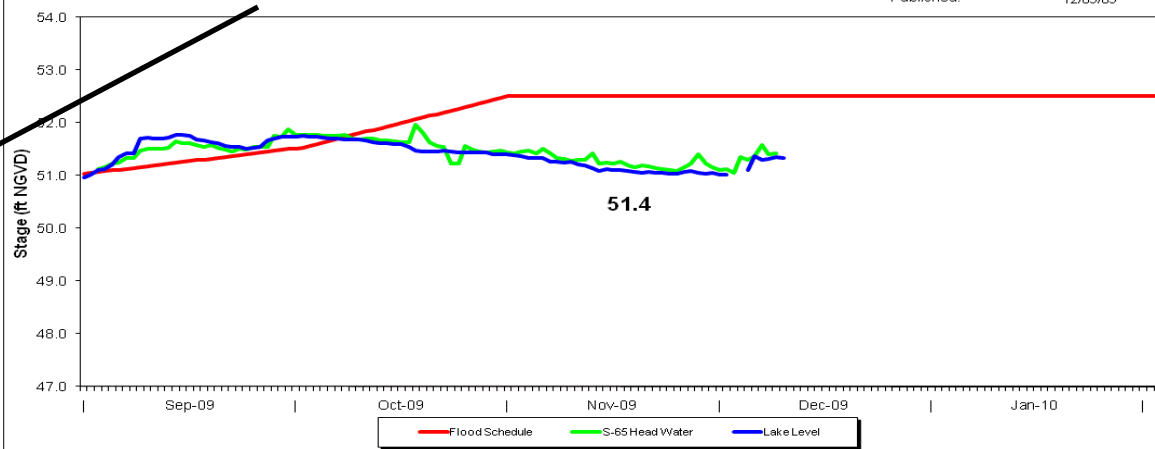
Graph

Graph

FT. PIERCE

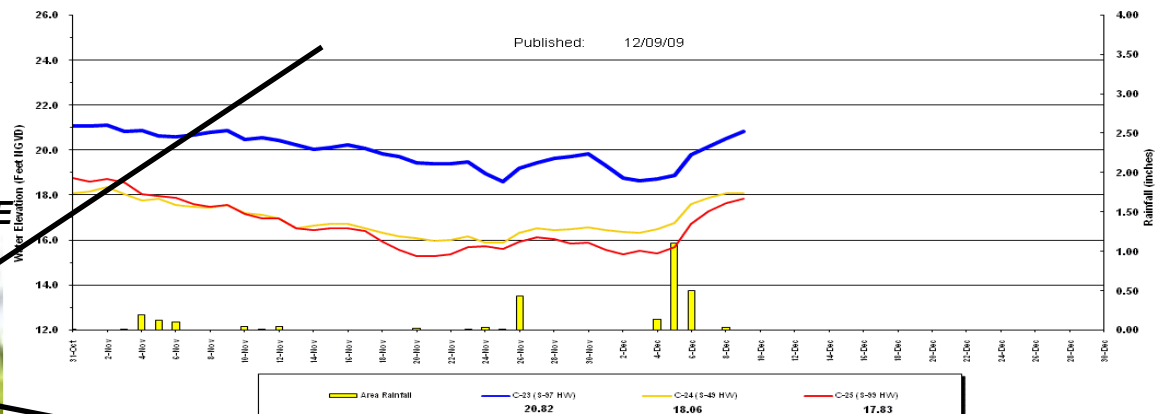
Lake Kissimmee

Published: 12/09/09



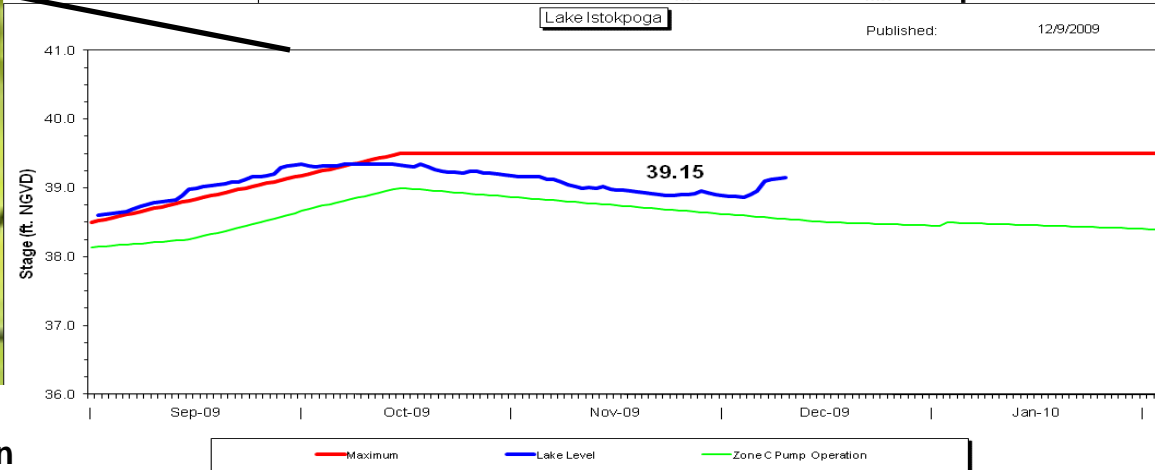
St Lucie Structures on C23, C24 & C25 Canals

Published: 12/09/09



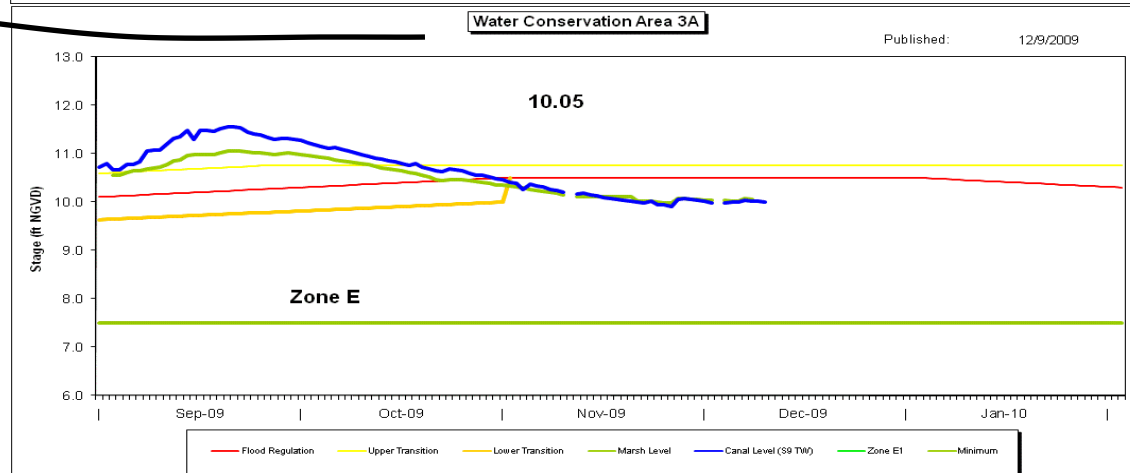
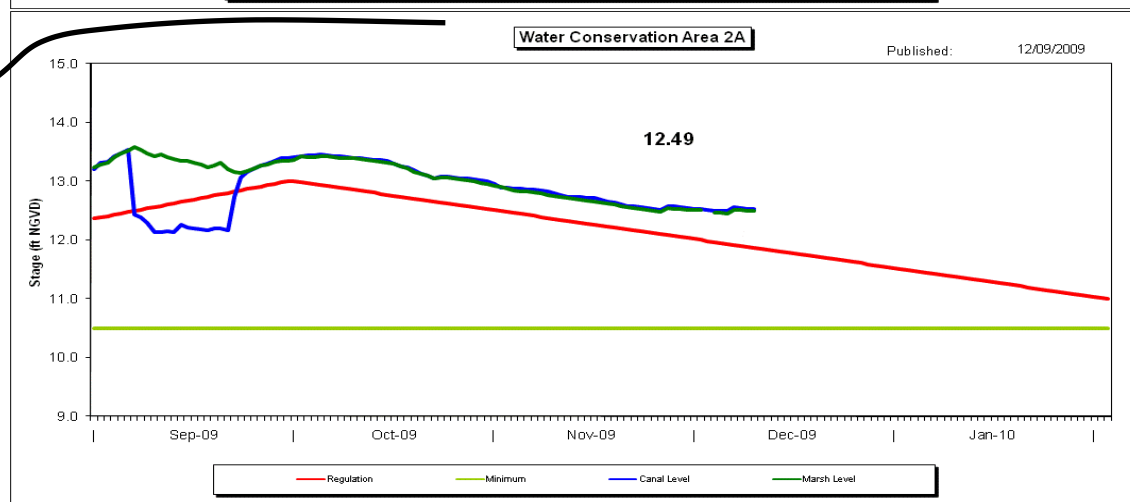
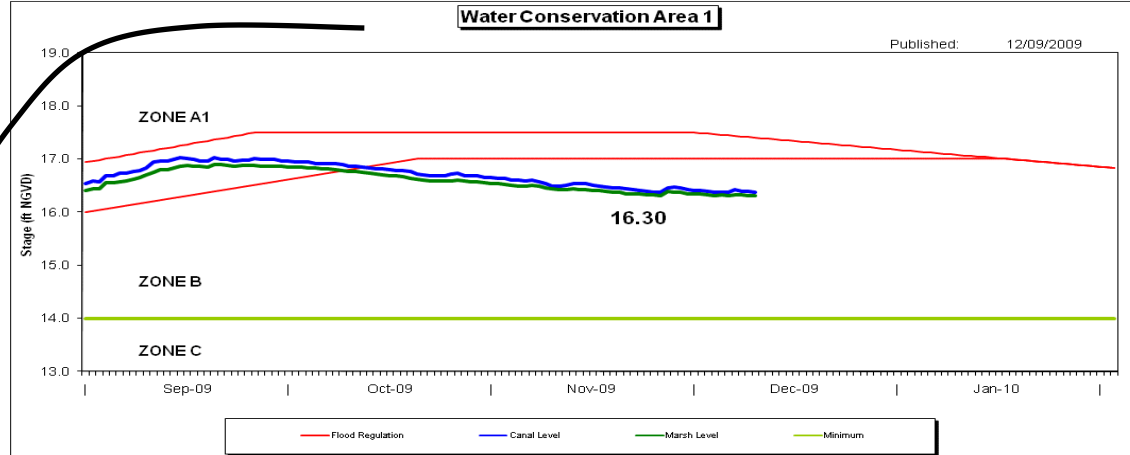
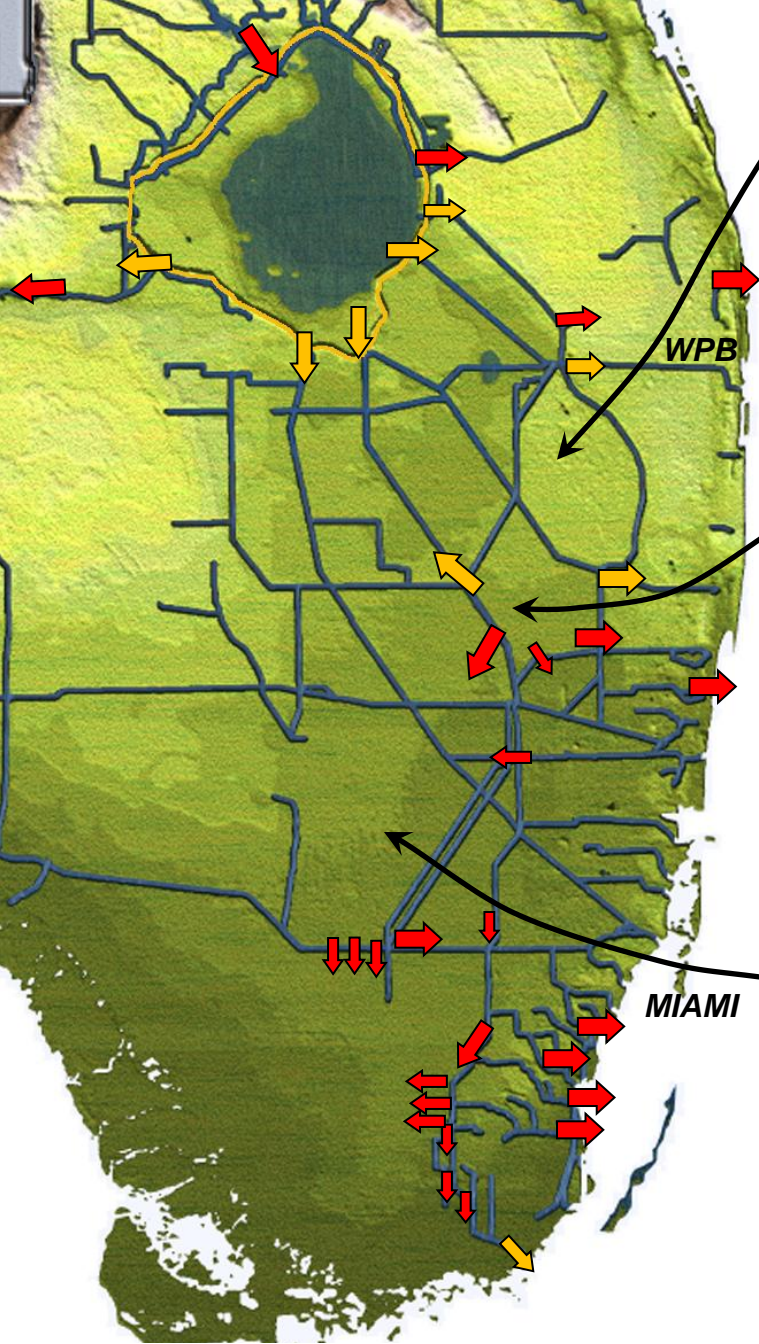
Lake Istokpoga

Published: 12/9/2009



Red Arrows = current operation

Orange Arrows = operation prior to weekend rain



Red Arrows = current operation
Orange Arrows = operation prior to weekend rain

Recent Releases to the Caloosahatchee Estuary

■ Nov 23 – Dec 3

- USACE conducted an 11-day release to CE at S-79
- Lake releases terminated Nov 30 when basin runoff sufficient to meet target flow at S-79
- S-79 release averaged 450 cfs
~10,000 ac-ft (~50% from Lake O)

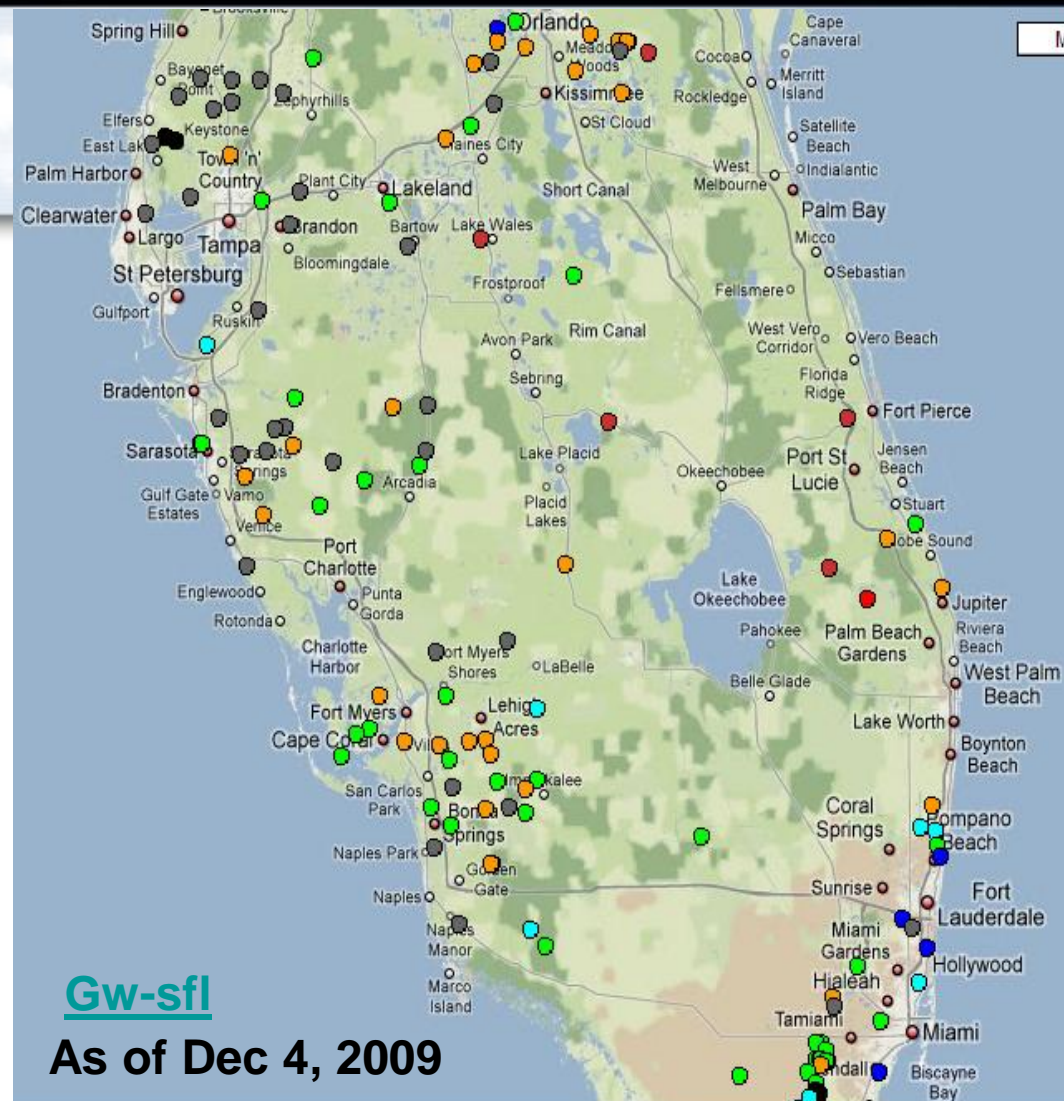
■ Dec 5 – present

- C-43 Basin runoff triggered release at S-78 and S-79
- No releases from Lake O at S-77
- S-79 release continues (~13,700 ac-ft as of noon Dec 9)



Groundwater Levels

- Most wells along the lower east coast are mostly either above normal or much above normal
- Wells in Upper East Coast are mostly below normal or much below normal
- Wells in Kissimmee Basin are mostly below normal, with few in the normal range
- Wells along the West Coast are normal and below normal



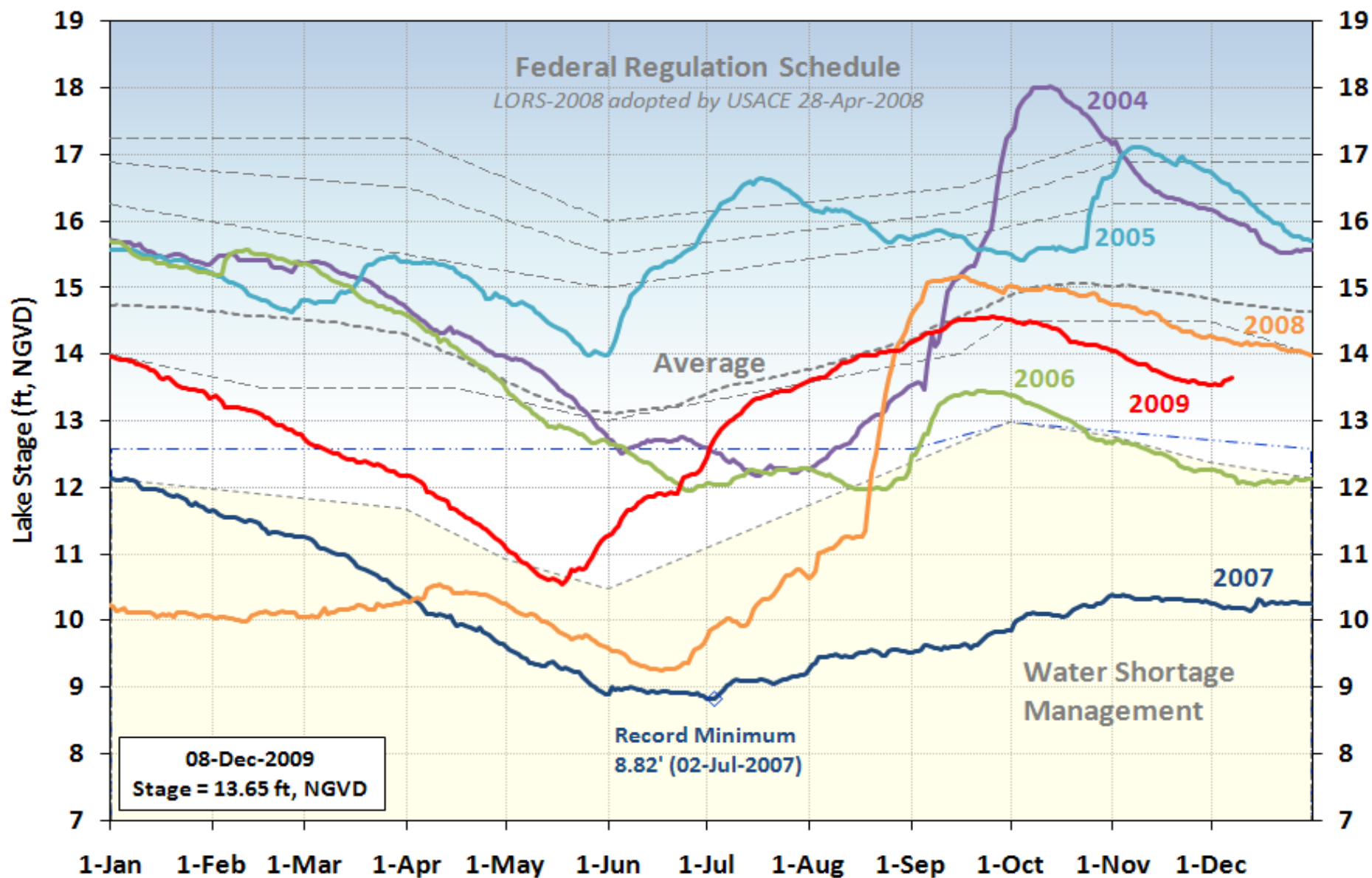
Explanation - Percentile classes (symbol color based on most recent measurement)

New Low	<10	10-24	25-75	76-90	>90	New High	Not Ranked
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal		

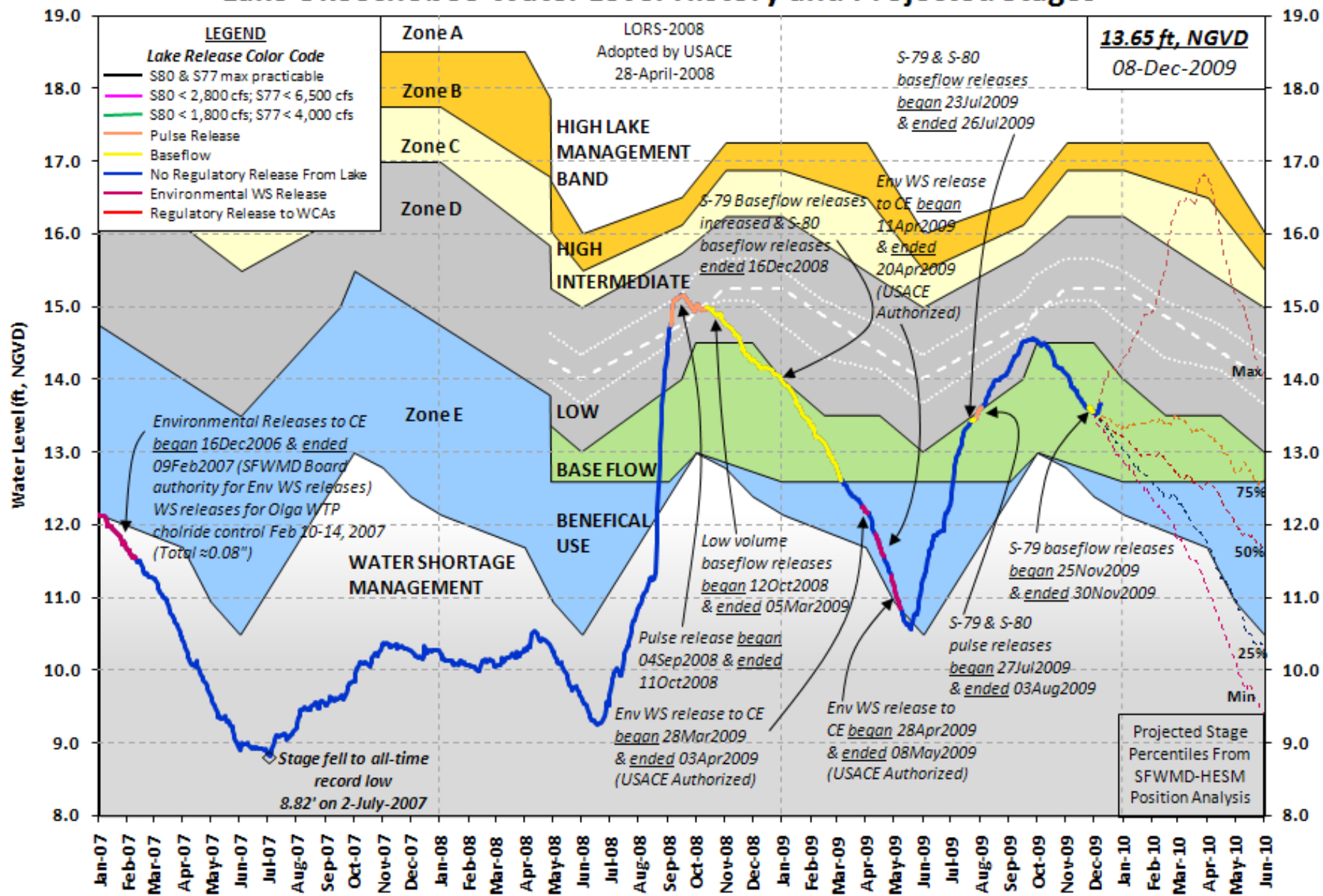


Lake Okeechobee Stage Hydrograph Comparison

-----Average (1965-2007) 2004 2005 2006 2007 2008 2009



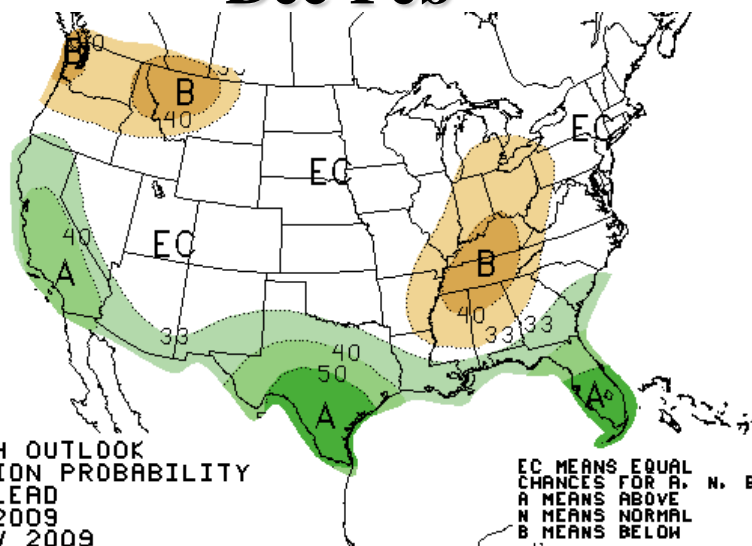
Lake Okeechobee Water Level History and Projected Stages



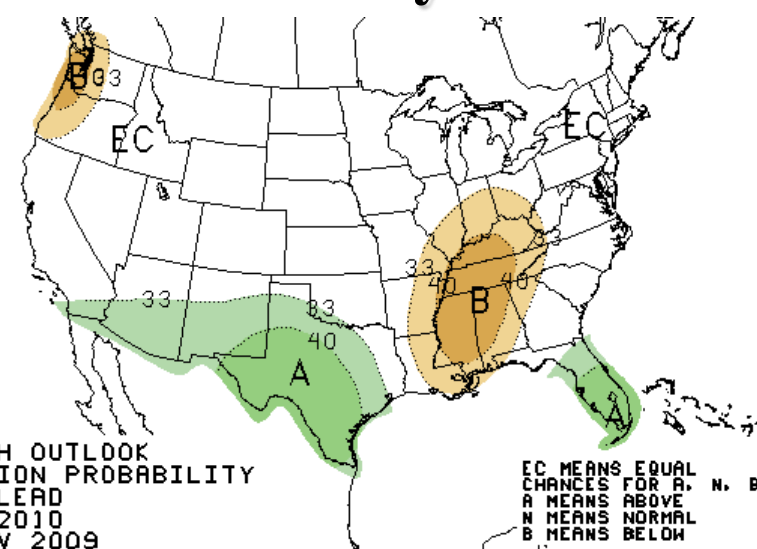
U. S. Seasonal Precipitation Outlook

National Climate Prediction Center (CPC)

Dec-Feb



Mar-May



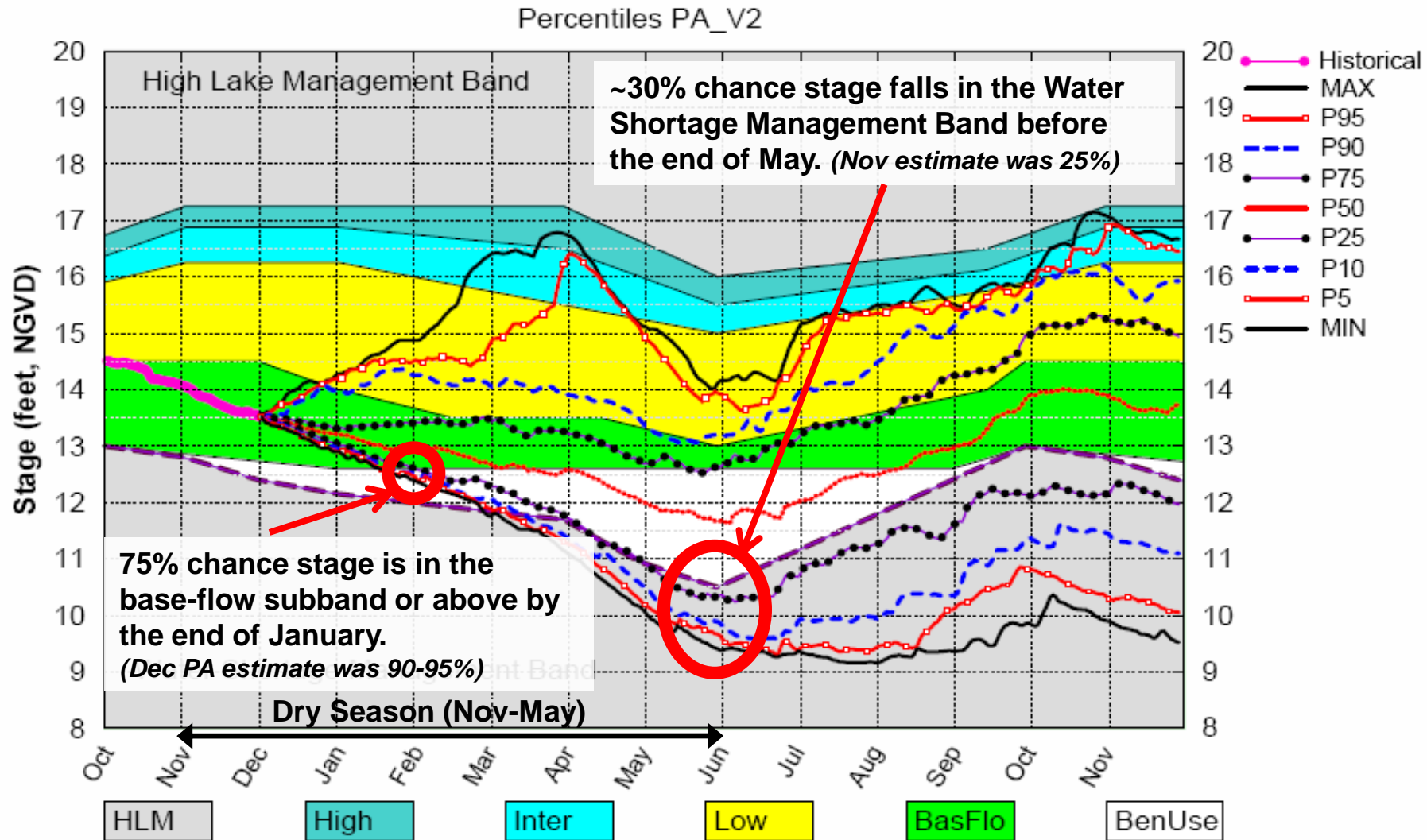
- The CPC forecasts El Nino conditions to strengthen and persist into the 2009-2010 winter. A moderate-strength El Nino is likely. A strong event is less likely, but is still possible. (CPC outlook 19-Nov-2009)
 - The outlook for Dec-Feb shows an increased chance of above-normal (A) rainfall for central (53%) and south (58%) Florida.
 - The outlook for Mar-May shows increased chances of above-normal (A) rainfall for central (43%) and south (~40%) Florida.
- (Note: If there are no increased chances, the probability of above-normal is 33%)

Lake Okeechobee Stage Forecast

- **Future Lake stage depends on future rainfall**
- **Projections provided monthly by SFWMD Hydrologic and Environmental Systems Modeling (HESM) Department**
- **Position Analysis**
 - Each year starts with current hydrologic conditions
 - 41 1-yr simulations of system response to historical rainfall conditions
 - Statistical summaries used to display projections



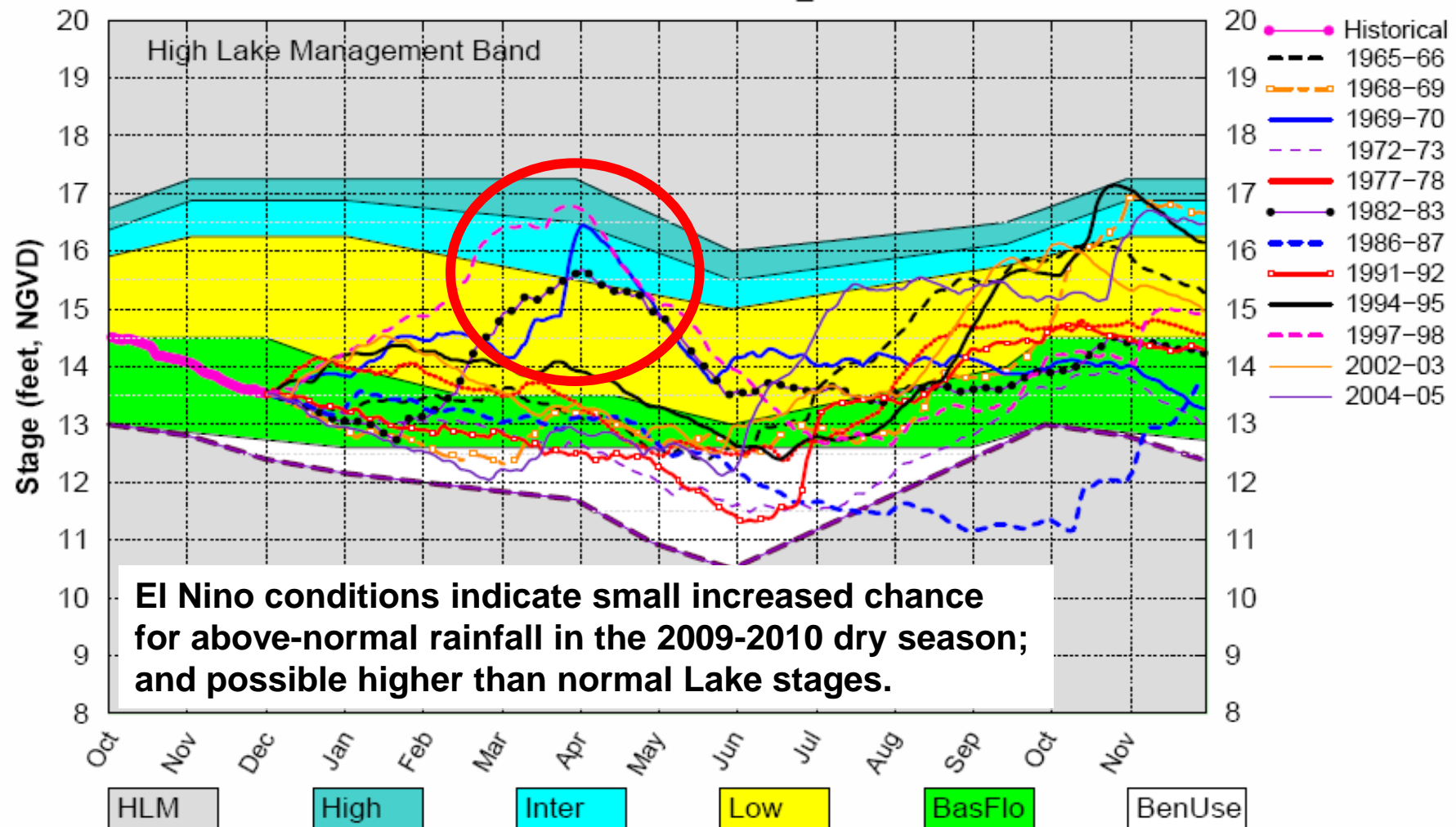
Lake Okeechobee SFWMM December 2009 Position Analysis



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM December 2009 Position Analysis

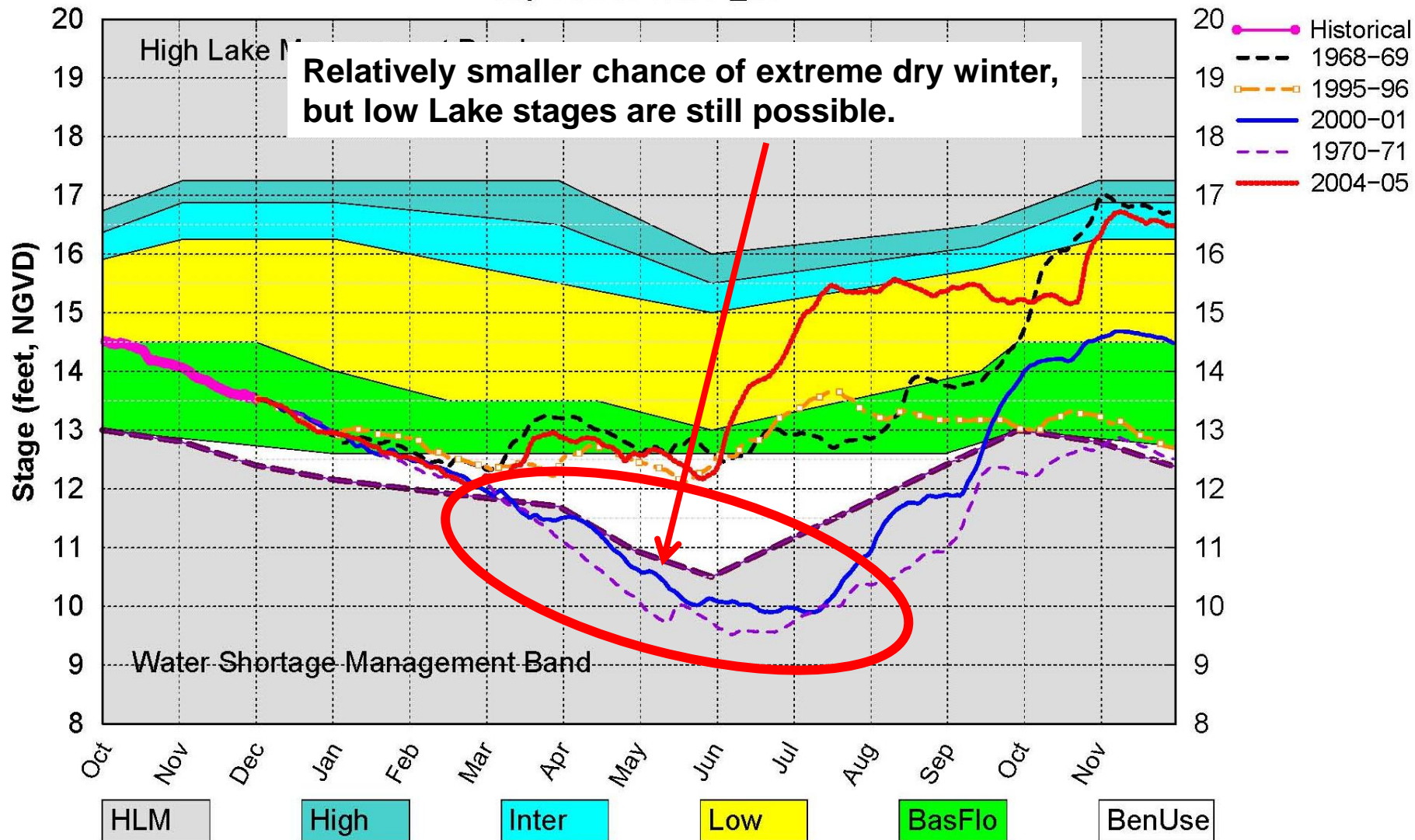
All El Nino Years Plot PA_V2



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM December 2009 Position Analysis

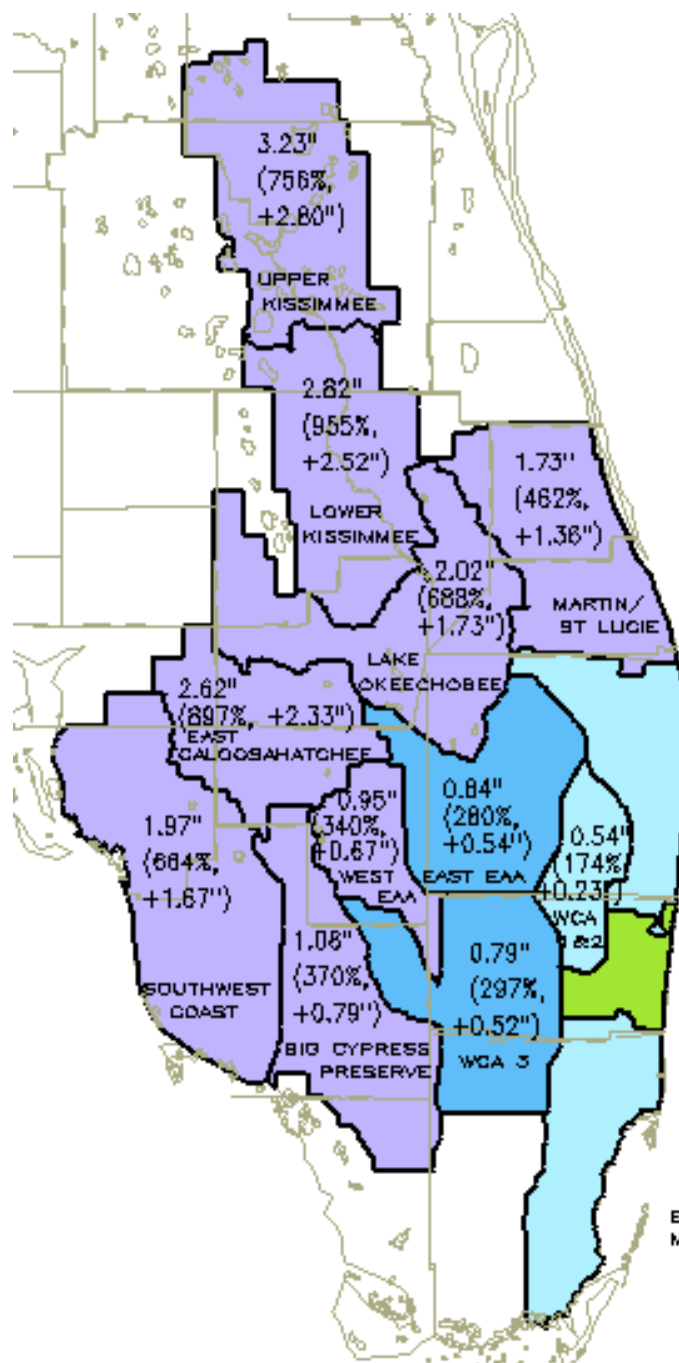
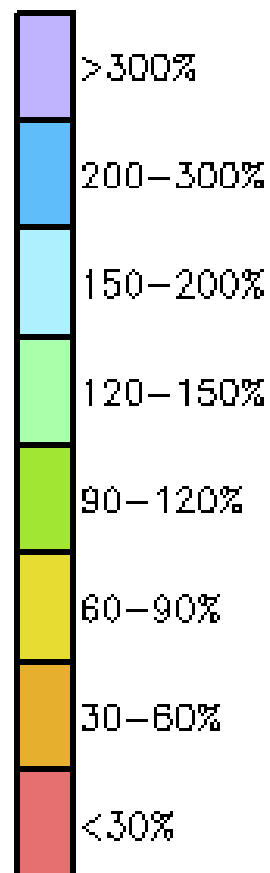
Dry Years Plot PA_V4



(See assumptions on the Position Analysis Results website)

Questions??





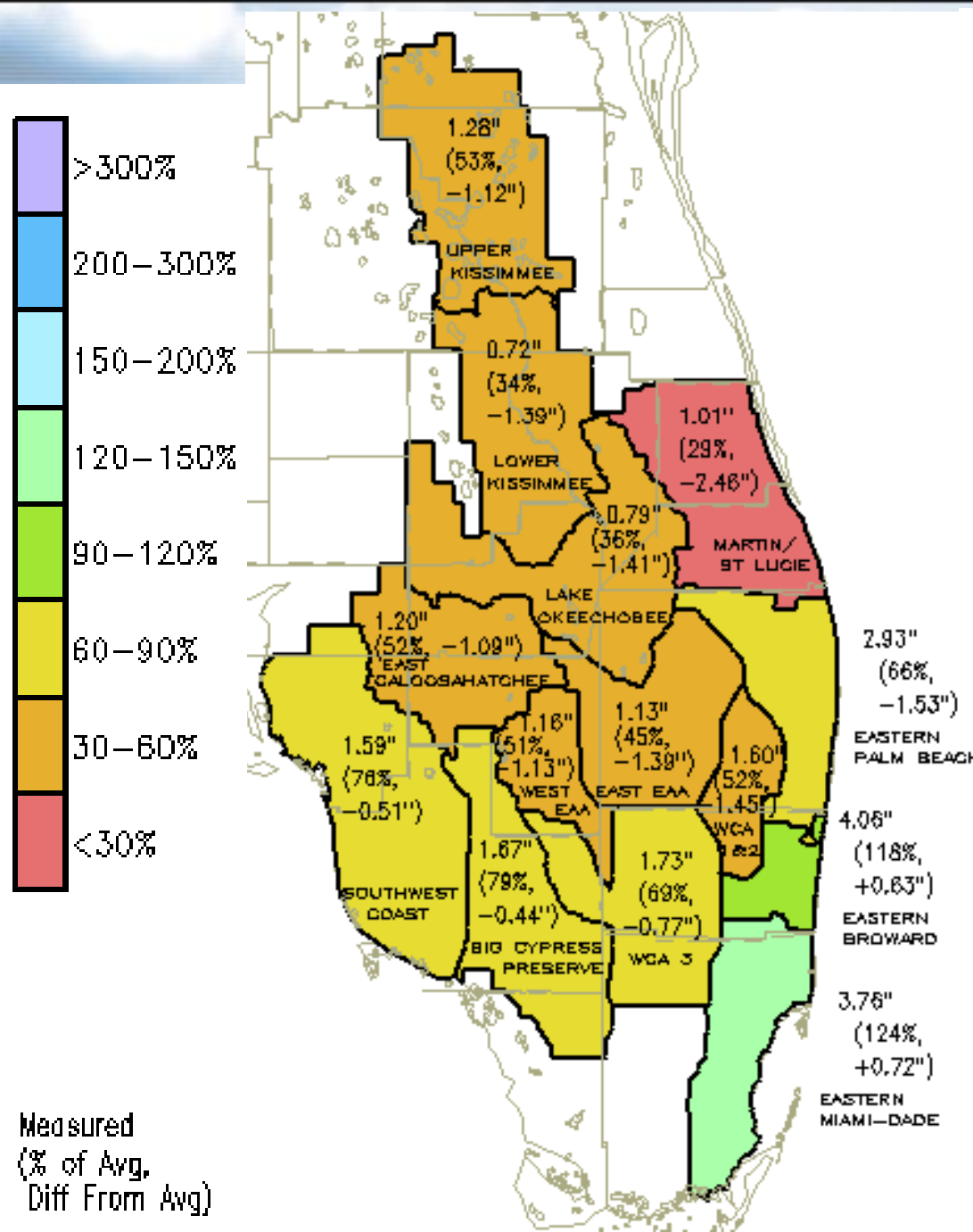
Dec 2009 Rainfall
2 Dec – 06 Dec

DISTRICT-WIDE:
1.68" (518%, +1.36")

Average Dec
= 2.01"

Measured
 (% of Avg.
 Diff From Avg)

0.77" (161%, +0.29")
 EASTERN PALM BEACH
 0.34" (95%, -0.02")
 EASTERN BROWARD
 0.49" (155%, +0.17")
 EASTERN MIAMI-DADE

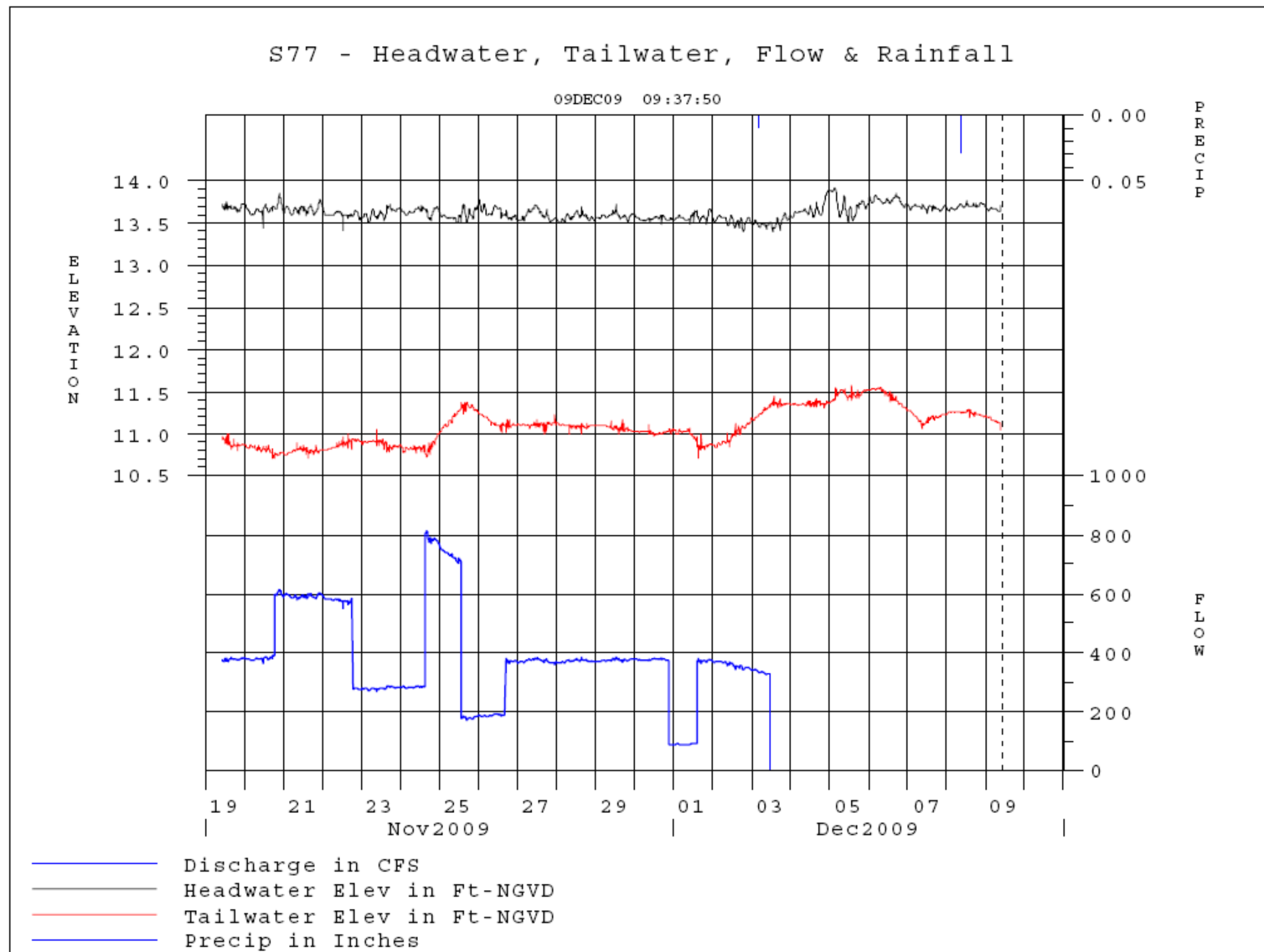


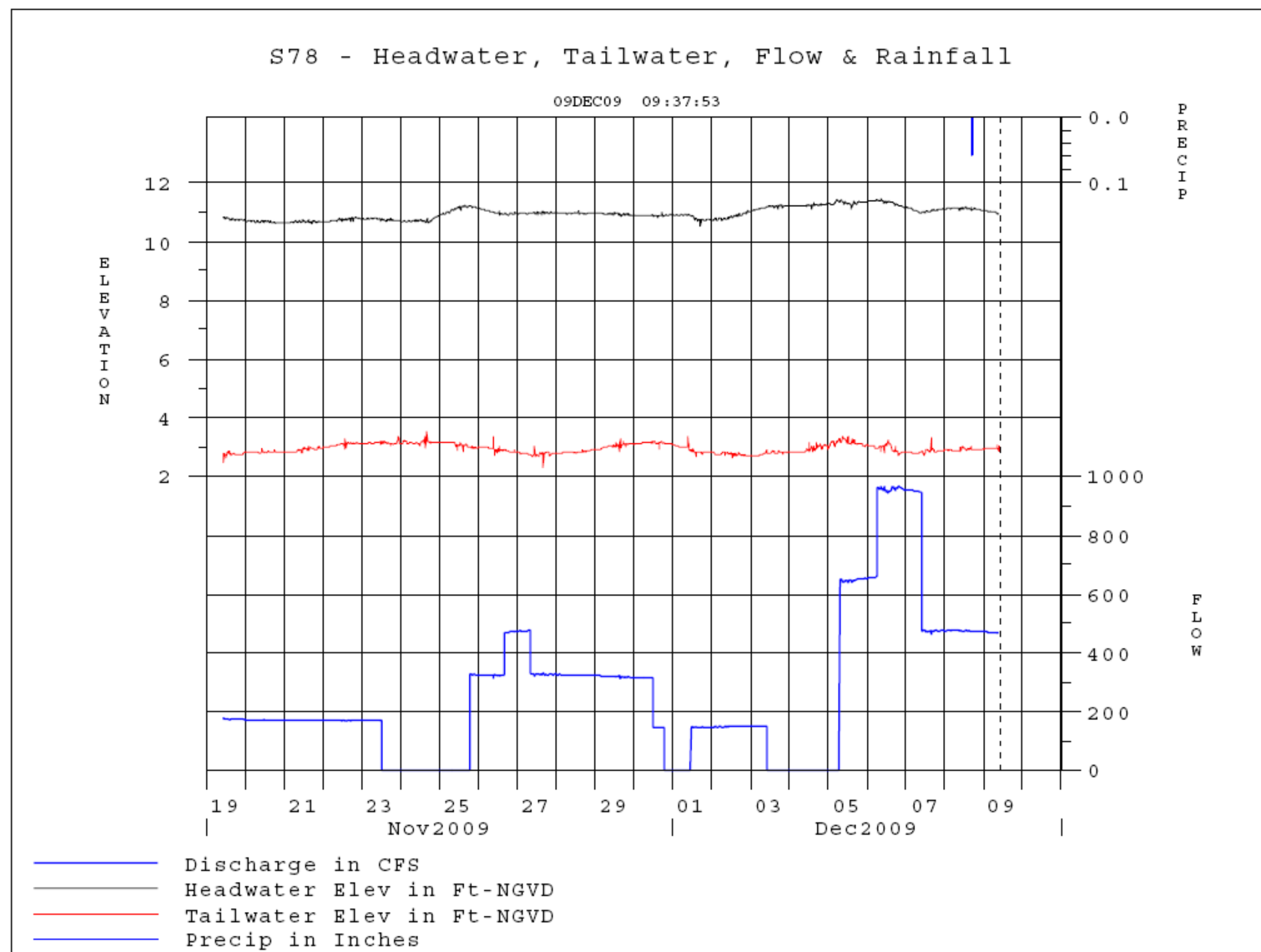
SFWMD 2009 November Rainfall November 2nd – 30

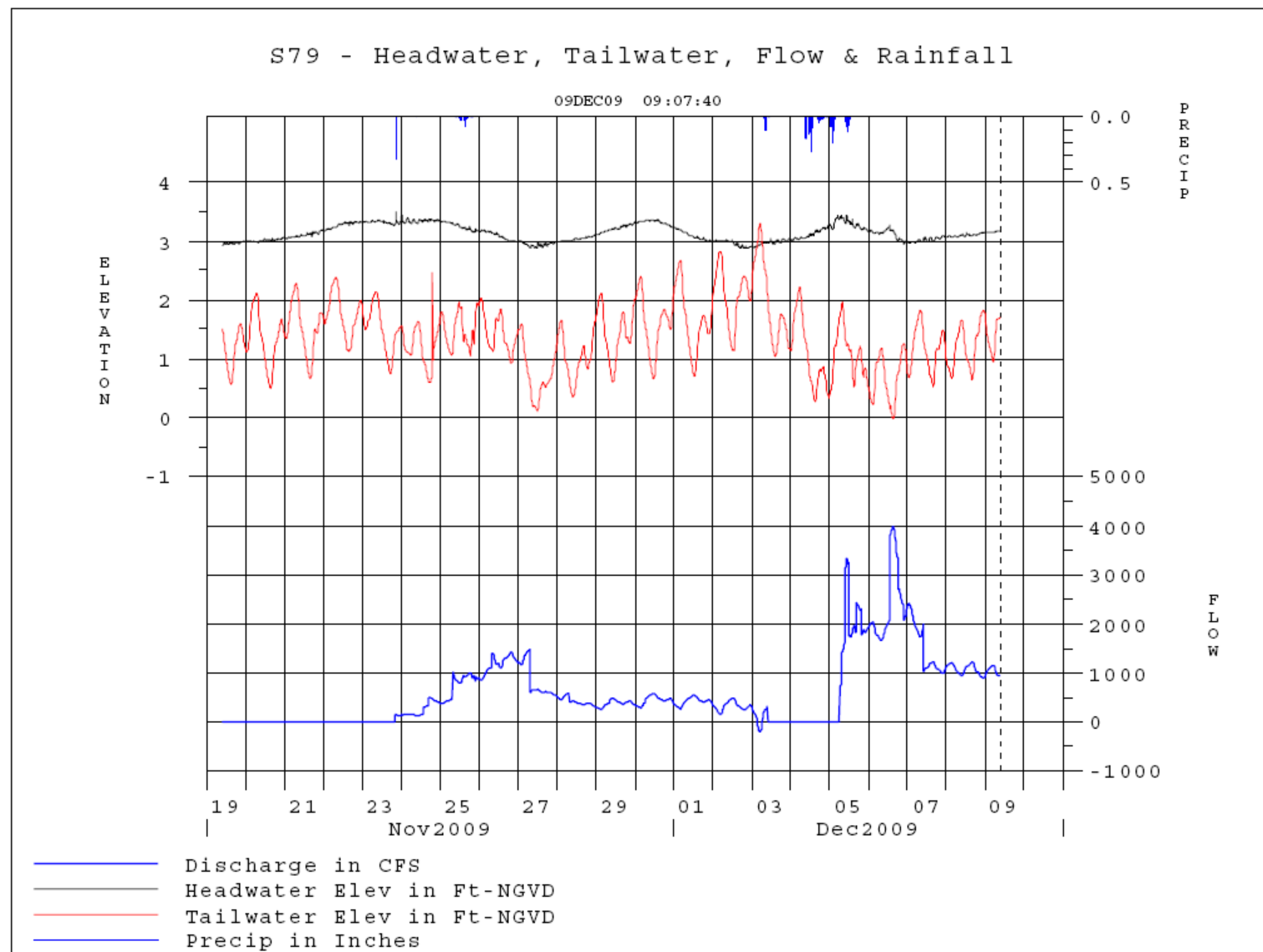
DISTRICT-WIDE:
1.54" (60%, - 1.03")

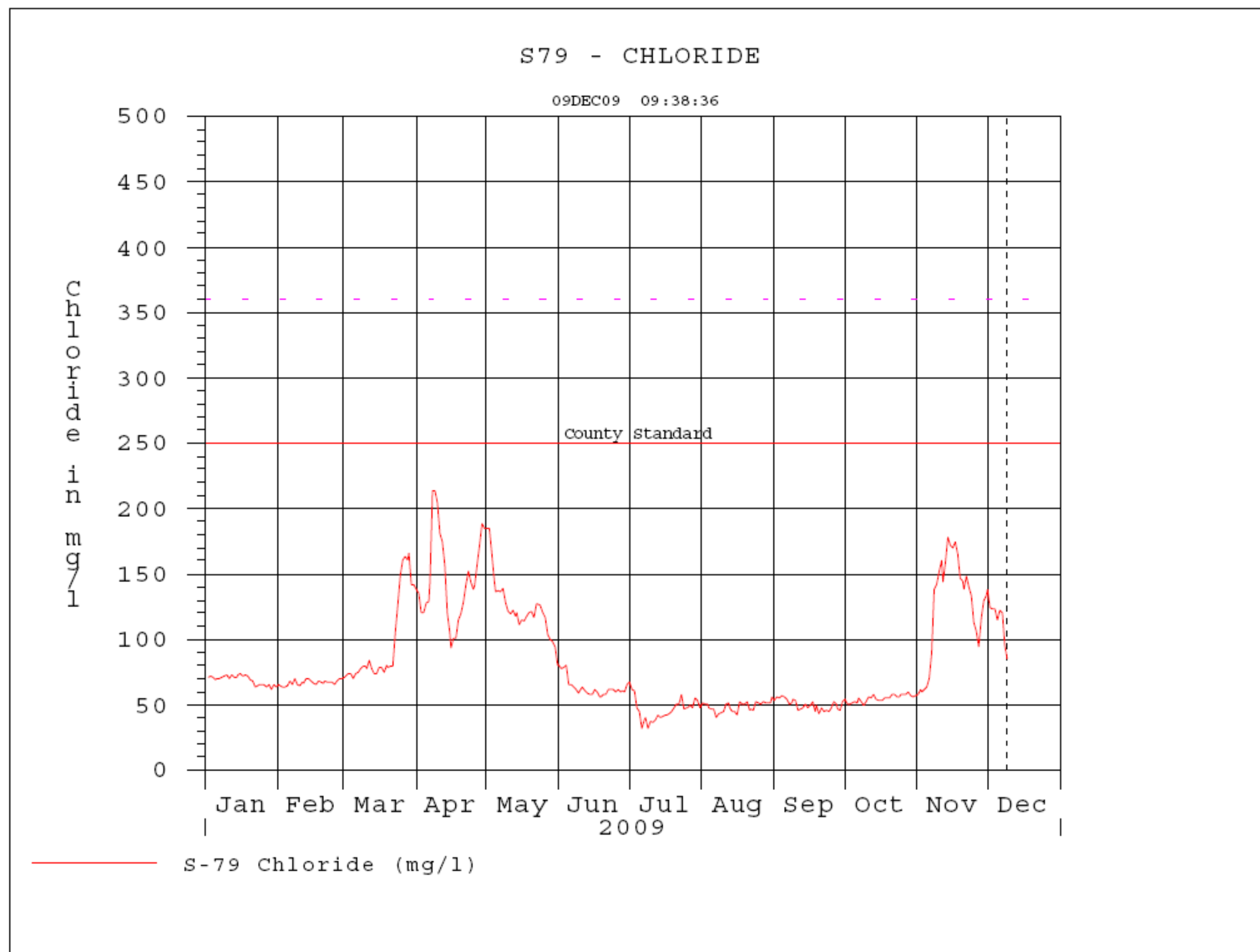
Average November
=2.57"

- *Except for Eastern Broward and Eastern Miami Dade, all basins are below normal*
- *Basins north of LOK received between 30 and 60% of their normal Nov. rainfall*
- *LOK received 36% of its November average rainfall*
- *Martin/St Lucie received less than 30% of normal*

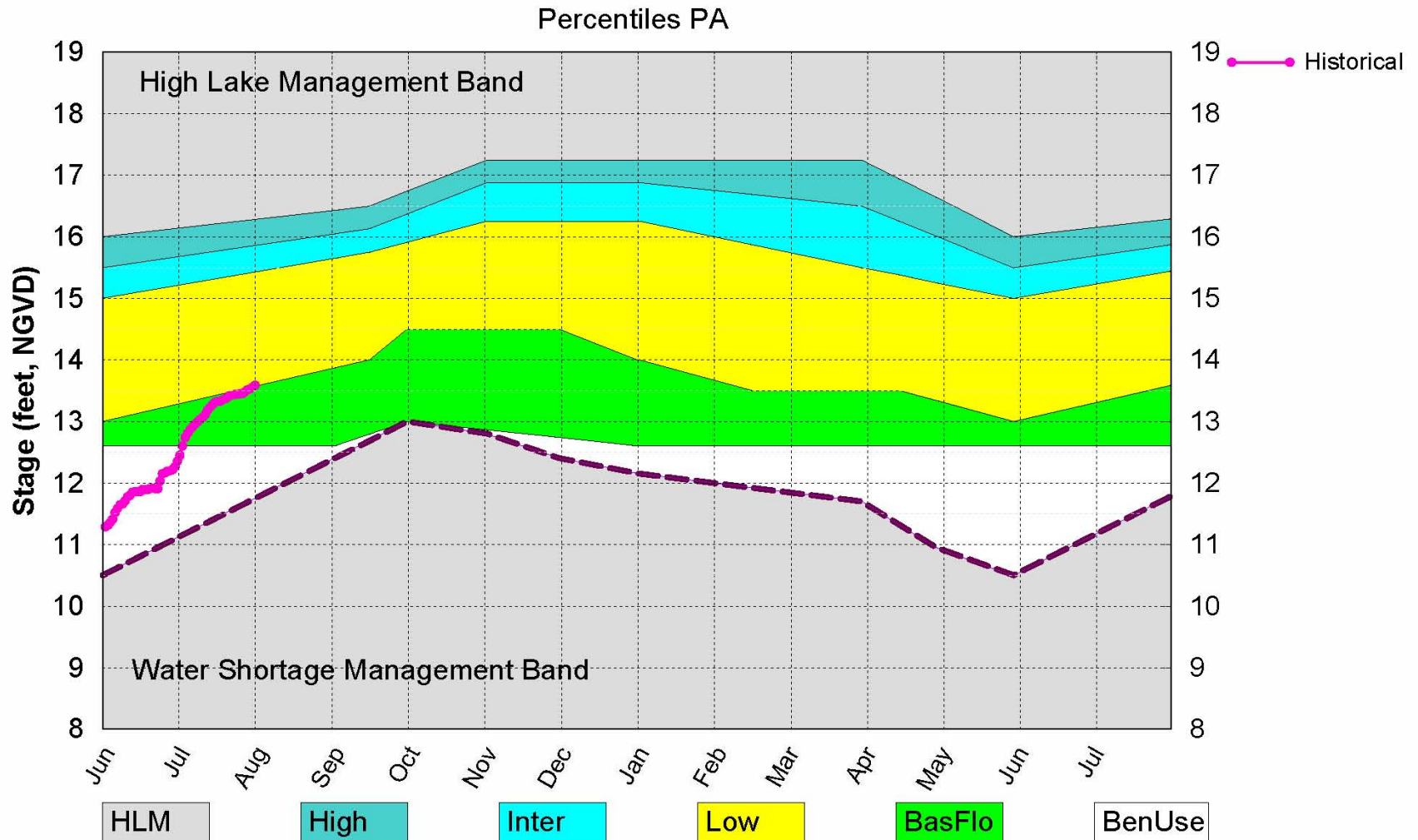








Lake Okeechobee SFWMM August 2009 Position Analysis



(See assumptions on the Position Analysis Results website)